

REMARKS

Favorable reconsideration is respectfully requested.

The claims are 13 to 15.

The above amendment is responsive to points set forth in the Official Action.

Claims 13 to 15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Akiya et al. in view of Suenaga et al.

This rejection is respectfully traversed.

Akiya et al. (U.S. 4,758,461) discloses an ink jet recording paper comprising a fibrous substrate paper on the surface of which a silicon containing type pigment and a fibrous material of the substrate paper are present in a mixed state. The recording paper has a Stockigt sizing degree ranging from 0 to 15 sec. and a basis weight ranging from 90 to 200 g/m² (claim 1).

The fibrous material constituting the substrate paper is composed mainly of wood pulp typically LBKP and NBKP, and the aqueous coating liquid comprising a silicon containing type pigment and an aqueous binder is coated on the surface of the substrate paper (col. 3, lines 58 to 65).

Since the recording paper of Akiya et al. contains a large amount of a silicon containing type pigment with high ink absorbing capacity in the surface layer (i.e. the coating layer of the recording paper), it has a high probability of the ink droplets being trapped and absorbed by the pigment, and therefore feathering and diffusion of the ink can be inhibited, whereby it may be considered that dot shape is improved and also the coloring density enhanced (col. 6, lines 14 to 22).

In contrast, such large amount of silicon containing pigment is excluded by the "consisting essentially of" terminology of the present claims.

In the ink jet recording paper of the present invention, mercerized pulp is essentially used and a predetermined liquid transfer length is defined in order to improve both ink absorptivity and coloring density and not a large amount of silicon containing pigment.

Suenaga et al. (U.S. 6,133,170) discloses a low density body such as a sheet having a density of 0.05 to 0.45 g/cm³, comprising fine fibers having a bond-reinforcing factor of at least 0.15 and curled fibers having a wet curl factor of 0.4 to 1.0 (see claim 1).

The curled fibers produce a large volume of cavities in the paper. See col. 2, lines 20 to 23 of Suenaga. In contrast, the “consisting essentially of” terminology of the present claims excludes such curled fibers of Suenaga et al.

When a paper having a low density is used for ink jet recording paper, penetration of ink to the back of paper may occur and ink coloring density may decrease due to absorption of ink into paper. In addition, when penetration of ink to the back of paper occurs, a clear image cannot be obtained.

As seen from the Rule 132 Declaration submitted with the response of May 13, 2003, at pages 6 and 7, the use of curled fibers in Suenaga et al. produces a paper unsuitable for ink jet recording.

The low density sheet of Suenaga et al. may contain, in addition to the specific curled fibers and fine fibers, natural pulp fibers including mercerized pulps.

Even if the mercerized pulp taught by Suenaga et al. is used in place of the wood pulp (typically LBKP and NBKP) in the recording paper of Akiya et al., one would merely arrive at a recording paper comprising a fibrous substrate paper on the surface of which a silicon containing type pigment and a fibrous material of mercerized pulp are present in a mixed state.

The paper resultant from such combination is completely unsuggestive of the ink jet recording paper of the present claims both in composition and mode of operation.

The Official Action at page 3 states that the motivation to employ the mercerized pulp of Suenaga in Akiya’s ink jet recording paper is that mercerizing the pulp reduces density (Col. 7, lines 6 to 8). However, as explained above, such reduced density is not necessarily desirable in an ink jet recording paper nor does Suenaga even relate to an ink jet recording paper.

Thus, there is no motivation to combine these references.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Yoshiaki TOMOTAKE et al.

By: Matthew M. Jacob

Matthew M. Jacob
Registration No. 25,154
Attorney for Applicants

THE COMMISSIONER IS AUTHORIZED
TO CHARGE ANY DEFICIENCY IN THE
FEES FOR THIS PAPER TO DEPOSIT
ACCOUNT NO. 23-0975

MJ/kes
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
March 1, 2005